Minutes: Steller Sea Lion Research Planning Meeting
(24-25 January, 2001)

1.0 Introduction

The FY20001 Congressional appropriations language contained a large increase in funding for Steller sea lion protection and management, and included various directives for the development of a comprehensive and coordinated research program with those funds. This program was intended to address a broad range of factors related to the ongoing decline of Steller sea lions in Alaskan waters. The scope of the projects, as well as their prioritization, warranted immediate and ongoing communication among the recipients of the funding in order to craft a research program that will be scientifically sound, responsive to Congressional intent and consistent with the appropriations language.

To facilitate communications and to initiate development of the requisite research program, the Alaska Fisheries Science Center (AFSC) hosted a planning meeting, on 24-25 January, at the NOAA Western Regional Center in Seattle, Washington. The Pacific Marine Environmental Laboratory (OAR/PMEL) provided their conference facility for the event. The participants, representing the government agencies and non-government organizations slated to receive Steller sea lion research funds under 2001 Congressional appropriations, included the National Marine Fisheries Service (NMFS), Office of Oceanic and Atmospheric Research (OAR), National Ocean Service (NOS), Alaska Department of Fish and Game (ADF&G), Alaska SeaLife Center (ASLC), University of Alaska (U-AK), North Pacific Fisheries Management Council (NPFMC), and the North Pacific Universities Marine Mammal Research Consortium (NPUMMRC). Appendix 1 presents the agenda, as adopted. The meeting was chaired by Ron Dearborn (Alaska Sea Grant) and Richard Ferrero (AFSC) served as rapporteur.

1.1 Meeting Orientation

Jim Coe (Acting Director AFSC) welcomed the group and introduced Ron Dearborn as chairman. Coe noted that this meeting would be considered “closed”, that is, only those parties representing offices or organizations associated with the Congressional appropriations earmarks would be in attendance, given the likelihood of discussions regarding disposition of those funds.

Ron Dearborn stated the purpose of the meeting: to communicate, cooperate and coordinate efforts to spend the Steller sea lion funds in the most productive ways possible. In his review of the agenda, Dearborn indicated that three perspectives would be shared by invited speakers, followed by background presentations on the Steller sea line decline and Congressional response. The group would then be encouraged to discuss research options, and ultimately determine how best to proceed with coordination. With regard to agenda changes, the chair added a brief discussion of coordination and outreach processes, at the request of Ron Baird (Sea Grant).

Attendees were asked to introduce themselves and comment briefly on their relationship to the issue at hand. Appendix 2 contains a list of participants, their affiliations and email addresses.

1.2 Perspectives

Three speakers, Ron Baird, Jim Coe and Dave Fraser, were asked to comment on the objectives of the research program from the national, regional and industry perspectives, respectively.

Ron Baird noted that the Steller sea lion/groundfish fisheries interaction issue has reached national prominence, as evidenced by the Senate debates, delay of the FY2001 appropriations process, the increase in funding available for research and references to the issue during Secretary of Commerce confirmation hearings. Congress has underscored its intention to broaden participation in developing the science needed to guide public policy by funding multiple parties. While this issue presents a very complex problem with both long and short term dimensions, it was intended to be addressed through extensive cooperation. The efforts of this group will be watched closely, but that scrutiny also provides an opportunity to show what these agencies and organizations can deliver, despite the complexities.

Jim Coe set the regional tone. His comments were much in keeping with the national perspective, but he also noted the irony of the situation. Just two years ago, the Alaska groundfish fisheries were models for the nation, with not only healthy stocks, but guided by progressive management through NMFS and the NPFMC. Today, the agency is viewed, by some, more dimly as the Steller sea lion/fisheries interaction questions have become increasingly more difficult to resolve. The ESA, NEPA and MSA are not without conflict and collectively generate more legal requirements than available resources can address. In the absence of adequate funding for science and management, the pace of the problem has overtaken the Agency's ability to complete the review and analytical processes as required, and so, has left it increasingly exposed to litigation. Nonetheless, Coe noted that the present challenge is to set up a quality research program that can begin, without delay, in 2001. He suggested that participants identify elements of an overall research program that they believe their expertise and resources are best suited to address and begin assembling of those parts at this meeting. Refinements would need to be accomplished through ongoing communication.

Dave Fraser commented on the industry perspective, as a member of the NPFMC Advisory Panel. Fraser indicated that the conclusions in the 30 November Biological Opinion (BiOp) and the text of the "Stevens Rider" provide the context for the fishing community's view of what should be included in a comprehensive research program on Steller sea lions. The industry has a proprietary interest in seeing that this research addresses a broader range of possible factors relating to the depressed status of the Steller sea lion population besides just the fisheries competition element. In their view, the BiOp did not consider other potentially important factors adequately and as a result, the Alaskan groundfish fisheries are being restricted more harshly than necessary. Fraser expressed interest in seeing the research effort include applied science objectives that would provide more information on the nature of interactions between Steller sea lions and fisheries. Some elements industry would like included are: a) development of an age structured population model for Steller sea lions; b) an expansion of the satellite tagging studies and; c) enhanced scat collections for broadened evaluation of Steller sea lion diet.

2.0 Background Presentations

Given the size of the group assembled and differences in familiarity with the Steller sea lion issue, two background summaries were provided.

2.1 Steller Sea Lion Research and Management

Doug DeMaster presented a summary of research and management activities associated with the Steller sea lion issue since the late 1970's. DeMaster's slide presentation is included in Appendix 3. He began with a primer on Steller sea lion biology, emphasizing the population decline, distribution and foraging ecology and lead into a discussion of ongoing research. DeMaster pointed out that the plan for developing a new research program needs to consider these activities already underway and to compliment, rather than duplicate them. These field studies already involve many of the participants at this meeting. One of the critical research challenges noted was the problem of differentiating Steller sea lion responses to fisheries from those caused by environmental changes or other such agents. Investigation of the factors likely to have adverse effects will involve long term research efforts.

DeMaster noted that this overall research program is intended to provide new information. With regard to new information, there are both short and long term expectations, with the former playing a role in how the agency might initiate re-consultation on conservation measures needed in 2002 to recover Steller sea lions. If new information is not contrary to that which is already contained in the document, then the jeopardy decision, by ESA standards, is likely to stand.

2.2 Congressional Response

Richard Ferrero (AFSC) presented a summary of language in the FY2001 appropriations bill and related documents that identifies both Congressional intent and the funds earmarked for particular parties. Ferrero's slide presentation is included in Appendix 4. He discussed four documents containing pertinent details: a) Conference Report 106-1005 (25 October 2000); b) Senate Report 106-404 (18 July 2000); c) Conference Report 106-1033 (15 December 2000); and d) the Congressional Record of Senate floor debate on 15 December. With respect to interpreting the kinds of research Congress intended the funding to be used for, CR 106-1033, Section 209 (d), was underscored, and in fact it contains the majority of factors related to the sea lion decline previously noted in DeMaster's presentation. These include: the role of commercial fisheries, environmental change, increased predation (e.g. by killer whales and sharks), disease, and various forms of human caused mortality. Ferrero noted that these categories of impact may be useful for organizing the overall research program, even though the 12 items appear in the appropriations language specific to the $20,000,000 for sea lion protection measures.

With regard to funding protocols, Andrew Trites (NPUMMRC) expressed concern over the potential disposition of the $20,000,000. Jim Coe explained that $5.0 million of those funds should be set aside for FY02, representing a prudent management measure to ensure that any important research needs identified later on in this or next fiscal year (once the overall program had begun to take shape) could be funded. Coe further indicated that the Alaska Region had responsibilities relating to the management of the Steller sea lion issue, reflected in their $5.44

million initial budget target, yet they had no designated source for funding those obligations other than a fraction of the $20,000,000. Ron Berg (AK Region) and Mike Payne (AK Region) agreed with Coe's comments, noting that these management needs are high priority, given that they are required for fisheries to take place at all. Andrew Trites voiced objection to specifying use of $15,000,000 prior to the beginning of discussions of a coordinated approach to SSL recovery. NPUMMRC had come prepared with $6,500,000 in proposals for consideration and wished to have the value of all approaches discussed before portions of the funds were specified for particular purposes. Discussion of all proposals for the $20,000,000 had been expected by he and some other participants. Further discussion on the issue was tabled by the Chair.

3.0 Additional Comments on Research Program Development

Additional commentary on formation of the research program were provided by Dave Witherell, representing the NPFMC and Eddie Bernard (OAR/PMEL).

3.1 North Pacific Fisheries Management Council Comments

Dave Witherell noted that the appropriations language provided the Council with a means of developing a management system different from the one called for in the 30 November 2000 Biological Opinion. The interest in doing so stems from the Council's dissatisfaction with the conclusions in the BiOp. In particular, the Council, like the fishing community, has difficulty understanding how Steller sea lions can be disadvantaged by fisheries removals at a time when the fish populations are higher than they were in years preceding the Steller's decline. Further, the Council is concerned that the BiOp focused on the fisheries impact aspect and not the full range of potential factors possibly contributing to the decline.

Witherell explained how the Council is initially considering use of its $2,000,000 earmark. Of note is $700 K for NAS to review the BiOp (December 2002 report date), $200 K for an abbreviated review during 2001, and $400 K for 3 to 4 additional Council meetings in response to the Steller seas lion issue.

3.2 Pacific Marine Environmental Laboratory Comments

Eddie Bernard provided an overview of OAR and described how a network of oceanographic observation stations developed since the 1970's has contributed to recent successes in predicting el Nino events. He drew an analogy to the Steller sea lion issue by suggesting that a similar system of oceanographic monitoring stations could provide the foundation for addressing the role of climatic changes on Steller sea lion populations. This effort could interface with OAR efforts already underway, and eventually range from basin, to regional, to local scales where the latter were designed specifically to complement Steller sea lion studies at selected sites. The slides presented by Bernard are contained in Appendix 5.

4.0 Planning Committee Discussions

Dearborn directed the group to briefly discuss organizational, coordination and steering

committee considerations per Ron Baird's earlier request. Baird provided some initial thoughts on the role of a "coordination group". He identified a series of steps such a group might take toward developing the research program, including: involvement of the external community, synthesis and communication of ideas, identification of interests and abilities, implementation of the science, and outreach. During the ensuing discussion, several questions as to the authority or longevity of such a group were raised. No conclusions were reached. Similarly, questions about the time-lines for availability of research results were raised, both in the context of how a formal committee process might effect timing expectations, and when the Council would need research input for development of alternative Steller sea lion protective measures.

Overall, it was understood that the Council would reach its own conclusions on the merits of the Biological Opinion in June, using both extant and new information (if any were available). However, it was agreed that an expanded research program should get underway as soon as possible and develop the science necessary to balance effective protection of Steller sea lions with sensitivity to avoiding undue burdens on the fishing industry. Dearborn noted that there seemed to be consensus that coordination, in some form, was necessary, but there was not agreement at this point as to how a coordinating committee would fit into planning for the near term (i.e., 2001 field season). The issue was tabled pending further discussion of what the parties with funding might propose to study.

5.0 Research Framework

Options for organizing discussion of research topics and their relationships to the overall purpose of the appropriations were considered, including the brief list provided earlier by DeMaster (Appendix 3, Slide 6) the draft framework distributed by AFSC (Appendix 6) before the meeting, a modified set of themes by Gordon Kruse and a hypothesis-based decision tree developed by ADF&G. Despite differences in format, all four approaches generally related to the same kinds of underlying research.

The group agreed that DeMaster's list of "causes of the decline" represented research categories of sufficiently broad scope as to represent the beginnings of a comprehensive treatment. However, DeMaster noted that the AFSC framework could be used similarly, and had gone to the next step of focusing large categories of research into examples of more focused study questions. Kruse's approach was based on three general categories of research (nutritional stress, mortality factors other than starvation, and reproductive failure) into which agents (such as fisheries competition, environmental change, predation, disease, etc) fit in as sub-categories. The ADF&G decision analysis model worked sequentially through a series of questions and followed a logic that some participants thought was appealing. Others noted that the "yes/no" framework for answering questions do not accommodate situations where multiple factors are acting simultaneously on the Steller sea lion population. While no final decision was made on which of these formats would serve as the best tool for use in subsequent efforts to coordinate the research effort, a combination of Kruse's three general categories and the AFSC format received tentative approval.

Dearborn asked each of those groups to describe their potential roles in the overall research

effort, and to identify their existing or anticipated capabilities. From these comments it was hoped that coordination needs and gaps in the research scope could be more readily identified.

6.0 Research Interests and Activities Among the Funded Parties.

In response to Dearborn's request for each funded party to characterize the types of research projects they expected to be involved with as part of the overall Steller sea lion program, the following items were identified.

6.1 NPFMC - Witherell referred back to his earlier comments on how the Council would use its funds, namely reviews of the Biological Opinion, 3 to 4 additional Council meetings and support for analyses of Steller sea lion related management actions, including a legal analysis of the ESA framework.

6.2 ADF&G - Bob Small indicated that the State would expand their existing Steller sea lion program. In particular, they anticipated an enlarged branding effort (in conjunction with NMML), four seasonally distributed capture trips to examine habitat use and movements in relation to critical habitat, and nutrition/fitness studies (including fatty acid analyses) in conjunction with the capture trips. The purpose of the latter studies will be to identify critical life history periods (i.e. when animals are nutritionally independent and potentially most vulnerable).

6.3 U-AK - Kate Wynne described the Apex Predator study currently underway around Kodiak Island, indicating that this effort would continue and expand. She suggested that multiple, small scale, long term studies modeled after the Kodiak studies should be considered for other key areas such as Unimak Pass. For each study area Wynne envisioned the application of an interdisciplinary approach, drawing on expertise of a wide range of participants. For instance, in each area, research activities would include scat collections, behavioral observation, groundfish assessments before and after harvesting, satellite tagging and movement studies.

6.4 NOS - Beth Turner indicated that they would use an RFP approach, with proposals oriented to key research questions. While not well articulated yet, questions relating to predator/prey interactions would constitute the central focus.

6.5 NMFS/AFSC - Doug DeMaster described a broad suite of ongoing Steller sea lion recovery plan activities which would continue and potentially expand. These included pup and non-pup counts, behavioral observations at Marmot Island, identification of condition indices, and acquisition of Russian data. In addition, a group of Steller sea lion/fisheries interaction studies, begun in FY2000 would be expanded., including assessment of pollock abundance before/during and after harvest around Kodiak Island (also coordinated with Wynne's work), Atka mackerel tagging studies for assessment of movements and distribution in and around critical habitat near Seguam Pass, and evaluation of whether Pacific cod localized depletion has occurred. With regard to the "increased predation" hypothesis, killer whaler predation on Steller sea lions will be investigated, (with coordination w/ NPUMMRC), and supported by killer whale population

surveys in the Eastern Bering Sea and Aleutian Islands, photographic recording of individual identifications, and free-fatty acid analyses. Steller sea lion genetics studies also would be expanded to address stock substructure within the western population. In conjunction with PMEL, NMFS would continue efforts to assess forage abundance in Unimak Pass and the physical/biological factors responsible for the uneven distribution of primary production in the Aleutian Islands passes. Extensive deployment of satellite tags on Steller sea lions will complement many of the previously noted projects. Retrospective analyses of forage fish abundance and forage fish assessment technology will be addressed. Finally, a study of shark predation on Steller sea lions is also planned.

6.6 NMFS/AKR - Mike Payne explained that NMFS responsibilities under ESA and NEPA trigger the development of a growing number of documents (e.g., EA's, EIS's and BiOp's) as changes in the groundfish fishery occur. These are legal requirements must be met in order for the fishery to occur. While the research effort is critical to informing management as to the appropriate means of protecting Steller sea lions without undue burden to the fishing industry, the procedural aspects must also be addressed in order for fisheries to occur and to avoid further exposure to litigation. These needs are expanding beyond current resources and are a necessary element in discussion of funding allocation. In addition, the Alaska Region intends to reactivate the Steller Sea Lion Recovery Team and support the development of a revised Recovery Plan. The effects of State fisheries on Steller sea lions must also be considered, in cooperation with the State. Finally, an independent legal review of 1998 jeopardy call under ESA was proposed.

6.7 ASLC - Shannon Atkinson provided background on the Alaska SeaLife Center. She identified several areas of both captive and field research that the ASLC has the capacity to conduct. Dietary manipulations, body condition indices, contaminants and disease and predation studies were among the items noted. She emphasized their interest in involving multiple research participants and expanding beyond their previous focus as a facility for conducting captive research studies. Thus, a portion of their funding would be used for in-house projects and some would go into RFPs.

6.8 NPUMMRC - Andrew Trites identified four categories under which the Consortium would like to fund research: Captive studies, modeling, field projects and lab studies. Captive studies would address a variety of questions including nutrition, energetics, and scat bias assessment. Modeling studies would include reanalysis of killer whale predation estimates, competition between commercial fisheries and foraging Steller sea lions, and the residual effects of intentional shooting and subsistence harvests. Field projects, generally supported by ADF&G would focus on diet, behavior, stress hormones and assessment of subsistence takes. Lab studies monthly composition of pollock and lab rat response to fish diets.

7.0 Assembly of the Project Elements

Dearborn summarized the progress during the first day and asked the group to begin fitting the project elements into a coordinated package. Categorization of the projects described the previous day was considered a requisite first step to more refined project design and identification of gaps in the overall plan. After discussion of alternative means for organizing

the discussion, the AFSC framework was agreed to as a template (recognizing that Kruse's three categories could also overarch those in the AFSC model). This framework was developed into a spreadsheet and filled out in real time as the funded parties identified their projects. It was agreed that the first cut at identifying projects should reflect funding needs equivalent to each party's earmarks. Discussion of protocols for funding studies from the unspecified portion of the $20,000,000 would be addressed separately. Projected budgets for project elements were considered rough estimates, subject to modification as individual projects take shape. Appendix 7 contains the draft research project framework developed by the meeting participants.

After completion of the draft framework, Dearborn asked Kruse to provide a brief assessment of its form and content and report back to the group. Kruse later commented that the framework attempts to accomplish at least three goals simultaneously: a) develop a science plan, b) coordinate efforts among various researchers and c) clarify places where administration of funding is required. He noted that the fisheries competition and environmental effects categories did not include much on herring and salmon issues, and could speak more directly to assessing overlaps in size of prey and winter distributions between Steller sea lions and fisheries. The anthropogenic effects category was also given only light treatment thus far. Overall, however, the group agreed that this product was a useful tool for focusing subsequent discussions among researchers seeking to coordinate their projects, particularly with respect to timing and location.

8.0 Conclusion

Progress was made on the identification of research studies and points of contact among the funded parties were established. However, the meeting concluded without consensus on the spending plan. In particular, concern was expressed, as previously noted, that a portion of the $20,000,000 was specified for management activities ($5,440,000) and to be held in reserve for future decisions ($5,000,000) prior to the meeting discussions. However, other members recognized that the appropriation language mentioned "recovery" activities which would presume to include both research and management. Still others commented that it seemed prudent to hold back $5 million for activities in FY02, given the current budget plan for Steller sea lion research and management in FY02 was <15% of the FY01 appropriation. Finally, it was recognized that non-federal "endowed" organizations were not allowed by law (i.e., FACA) to participate in meetings where the objective was to agree, by consensus, to a specific spending plan. However, there was a desire for continued communication and coordination of activities. Therefore, as a post-meeting assignment, DeMaster was asked to take the lead in communications with representatives of each funded organization (i.e, Bob Small(ADF&G), Kate Wynne (U-AK), Andrew Trites (NPUMMRC), Shannon Atkinson (ASLC), John Caulder (OAR), and Beth Turner (NOS) regarding the further development of a spending plan for FY01 and accommodating other coordinating discussions.

In addition, discussions among the researchers present at the meeting continued after adjournment, focusing on coordination of field research projects. The timing and locations of field studies were topics of particular interest. Having identified many of the major pieces of the research program, ongoing refinement of individual studies is expected to continue through both formal and informal communications.

Appendices

1. Agenda as adopted
2. List of Participants
3 Doug Demaster's presentation slides
4. Richard Ferrero's presentation slides
5. Eddie Bernard's presentation slides
6. AFSC draft research program framework
7. Research project framework draft developed by participants at the meeting

Appendix 1

Steller Sea Lion Research Coordination Meeting
Building 3, Room 2104
NOAA Western Regional Center
7600 Sand Point Way NE, Seattle, WA
24 - 25 January 2001

Wednesday, 24 January

0900 ~ Opening Remarks (Jim Coe - AFSC)

- Welcome from the chair (Ron Dearborn - Alaska Sea Grant)
- Statement of purpose
- Review of the agenda
- Introductions

0940 ~ Perspectives on Steller sea lion research

- National Perspective (Ron Baird - Sea Grant)
- Regional Perspective (Jim Coe - AFSC)
- Industry Perspective (Dave Frasier - NPFMC Advisory Panel)

1010 ~ Background and issue orientation

- Summary of the events leading up to expansion of the Steller sea lion research program (Doug DeMaster - AFSC/NMML)
    - Steller sea lion trends and current status
    - ESA listing research based on Recovery Team recommendations
    - Current lines of research
    - Fisheries management connection: requirements under ESA, MSFCMA & NEPA
    - Litigation based on ESA and NEPA compliance
    - Comprehensive Biological Opinion and responses to it

1055 ~ ***Break (20 min)***

1115 ~ Congressional response to the Steller sea lion issue

Essence of the appropriations language:

- Senate Report
- Conference Report
- Senate debate

Thumbnail sketch of the gross operating budget

1130 ~ The need for applied management - NPFMC decisions and time lines
(Dave Witherell - NPFMC)

1145 ~ Physical oceanographic and climatic research as applied to the Steller sea lion case
(Eddie Bernard - PMEL)

1200 ~ ***Lunch Break (1hr 30 min)***

1330 ~ The development of an integrated research plan

<< Discussion lead by Ron Baird inserted>>

- Chair lead discussion of today's approach
    - Proposed use of AFSC or other framework
    - Identify hypothesis and operationally feasible research questions
    - Relating research needs to preferences and expertise of participants
        - Identify potential and real overlapping expectations
    - Gross estimates of project costs

1500 ~ ***Break (20 min)***

1520 ~ Continuation of integrated research plan discussions

1700 ~ ***Adjourn***

Thursday, 25 January

0900 ~ Recap of progress toward research plan development

0915 ~ Continuation of integrated research plan discussions (as needed)

1040 ~ ***Break (20 min)***

1100 ~ Fiscal and Logistical Considerations: Protocols for Research Plan Assembly, Reviews and Distribution of Funds

- Earmarked vs. unspecified funds
- Spending plans and RFPs
- Spending plan deadlines and format
- Executable plans vs. RFPs (Feb 15 deadline for spending plans)

- Format for spending plans
- Reviews - when and by whom
- Special considerations for grants process

- Consideration of an advisory group formation

1200 ~ *Lunch Break (1 hr 30 min)*

1330 ~ Continuation of the morning's discussions

1500 ~ *Break (20 min)*

1520 ~ Summary and Consideration of Future Actions

- Subsequent meetings
- Time line for research plans
- Assignments for the advisory group (?)

1700 ~ *Adjourn*

Appendix 2 – List of Participants